

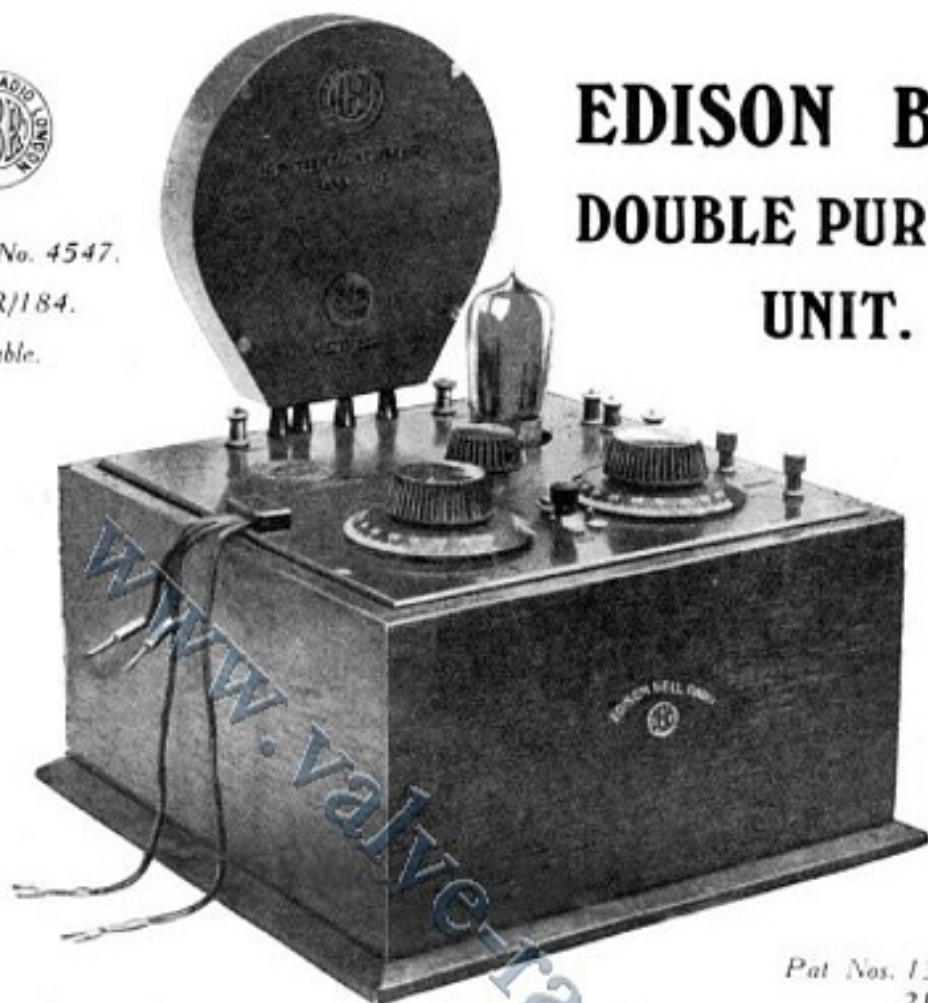


P.O. Reg. No. 4547.

Cat. No. R/184.

Code: Double.

EDISON BELL DOUBLE PURPOSE UNIT.



Pat Nos. 13671/23
217409/24

Price £6 : 6 : 0

Plus Marconi Licence, 12/6. The above price does not include Valve or Batteries.

SPECIFICATION :

Weight $8\frac{1}{2}$ lbs., size $8\frac{3}{4} \times 8\frac{3}{4} \times 5\frac{1}{4}$, with Eboneum Panel, fitted into a Polished Cabinet, with Nickel Plated Fittings throughout.

DESCRIPTION :

The Double Purpose Unit as Valve Detector.

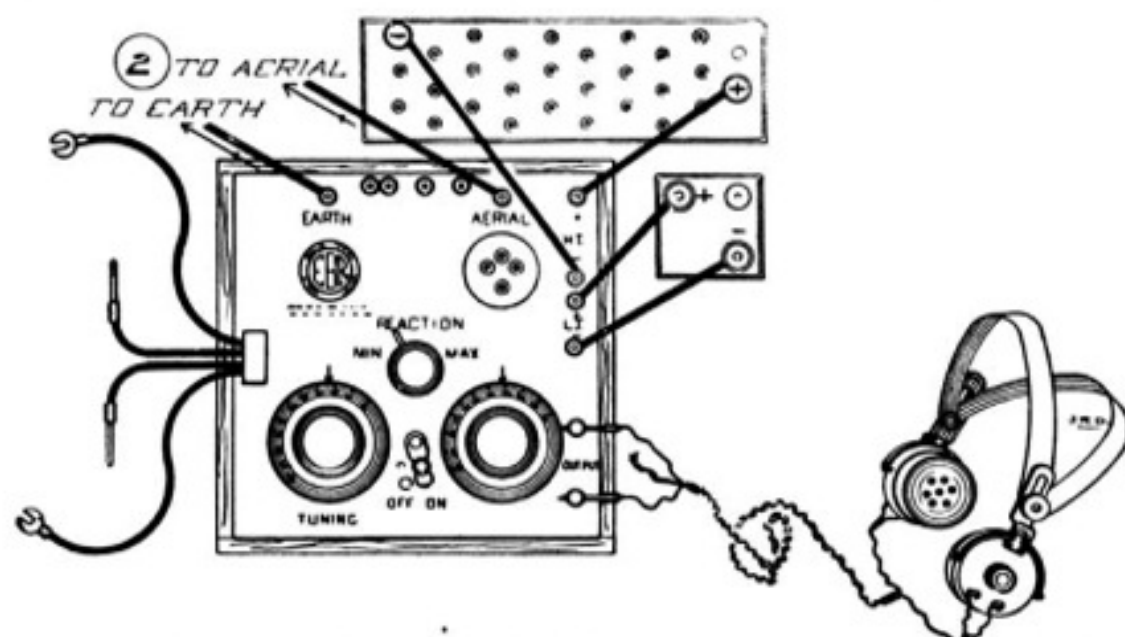
The Edison Bell Double Purpose Unit, as its name implies, mainly serves a double purpose, either as a Valve Detector or as a Dual Amplifier, but the amateur will find many other ways of utilising this instrument, and instructions are issued with each set.

This Double Purpose Unit is the result of long research, and must not be confused with the Straight Single Valve Sets on the market.

It is far superior where the signal strength, range and musical quality is concerned, and is devoid of any internal noises.

The instrument, as supplied, is fitted with an H.F. Transformer, suitable for 300-500 metres, but other H.F. Transformers can be supplied to cover the following wave-lengths: 500-900, 900-1,600 (for Chelmsford), 1,600-2,800.

J. E. HOUGH, LTD.



Reception range for main British Broadcasting Company Stations, under normal conditions, with 100 feet aerial, exceeds the following (interference permitting):—

Loud Speaker ...	...	...	...	2 to 3 Miles.
'Phones (day-time) ...	...	...	...	100 "
'Phones (night-time) ...	...	...	...	200 "

Even under adverse conditions, the efficiency will be found to be far greater than that of the average Single Valve Detector, and equal to many straight two valve sets on the market.

The connections, as shown in Fig. 2, are quite simple, and the novice will experience no difficulty in connecting the instrument ready for reception and tuning in the desired stations.

The tuning and reaction system used, though well known to experimenters in connection with high efficiency dual amplification circuits, has not previously been commercially applied to Valve Detector Sets.

An ordinary grid leak is not used in this instrument, a wire wound impedance in a different part of the circuit being substituted; as a result of this, the instrument makes no noise of its own, and has a better musical quality than is customary with Valve Detector Sets.

Special attention has been paid to the complete elimination of hand effect.

A Potentiometer is fitted, by means of which the valve can be worked at its very best detecting point. This refinement, though it means an extra adjustment, is of the greatest possible value, especially when a high impedance is used, as in this instrument.

The net result of all these refinements is an instrument worthy of the name of Edison Bell.

- (1) It is extremely sensitive to long distance telephony.
- (2) It is free from hand effect and reaction overlap, thus making long distance tuning a pleasure.
- (3) It is free from internal noises.
- (4) It does not saturate easily when receiving from the local station.
- (5) Its musical quality is well above the average.

To increase the strength one, or even two, Edison Bell Note Magnifiers may be added, or the instrument may be used as an Amplifier. (See description of the Double Purpose Unit as a Dual Amplifier.)

The Double Purpose Unit as Dual Amplifier.

The Double Purpose Unit as amplifier is identical with the Double Purpose Unit as valve detector, the conversion being simply effected by connecting a suitable crystal set to the four leads on the left of the Double Purpose Unit, and altering the potentiometer knob, so that the valve works at its best amplifying point.

This extra adjustment makes the instrument appear complicated, but very slight knowledge of the Unit will enable the user to appreciate its simplicity, as the best potentiometer position is the same for all weak stations, while the other adjustments only become critical on the faintest stations.

The circuit employed when the crystal set is added is one of the most efficient single valve, dual amplification circuits known, and it will be found to give excellent musical quality and the greatest range and strength which is possible with only one valve and a crystal. Two tuned circuits are used, giving considerable selectivity.

There are several advantages in having the crystal set separate from the valve set, as follows:—

- (1) The Double Purpose Unit can be added to your existing Edison Bell Crystal Set.
- (2) Should the Batteries or Valve fail at any time, you can still use the Crystal Set by itself.
- (3) When the maximum strength is not required, the Double Purpose Unit can be used by itself as a Valve Detector.

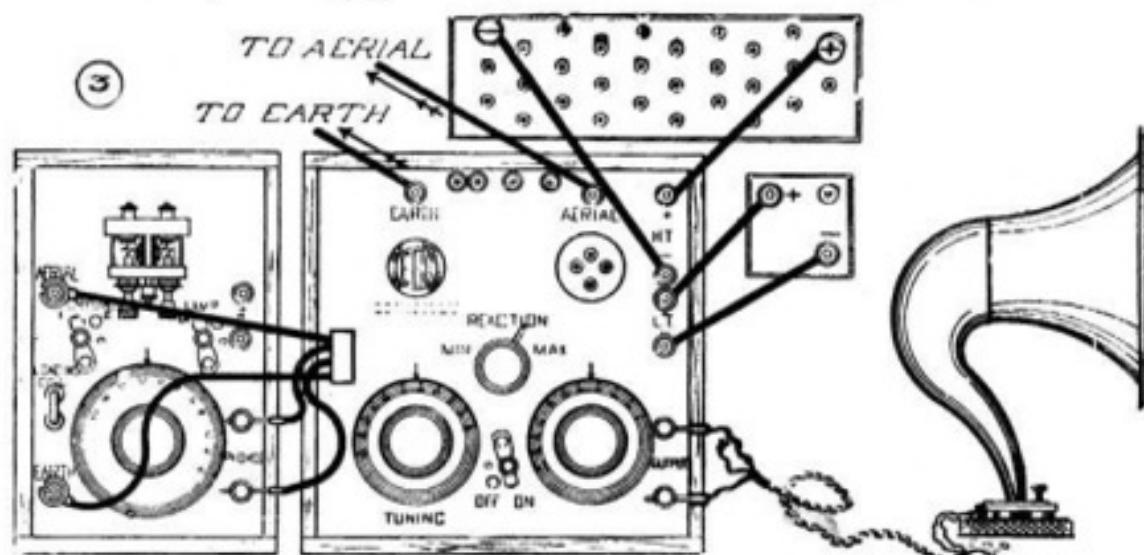
The instrument, as supplied, is fitted with an H.F. Transformer, suitable for 300-500 metres; other H.F. Transformers, suitable for 500-900, 900-1,600 (for Chelmsford), and 1,600-2,800 metres, can be supplied at extra cost.

The Edison Bell "B" Crystal Set is suitable for use with the Double Purpose Unit on 300-500 metres, or on 1,600 if the tapped coil is used. If all wave-lengths between 300-2,800 are to be received, the Edison Bell Condenser Tuned "C" Type Crystal Set is recommended.

The connections, which are shown in Fig. 3, are quite simple.

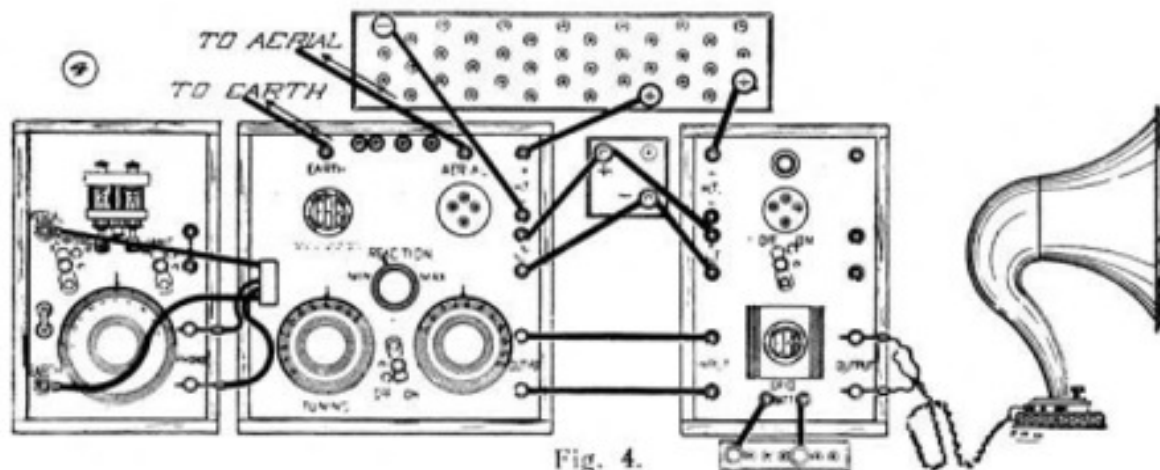
The range, under normal conditions (interference permitting), exceeds the following:—

Loud Speaker	...	...	...	10 Miles.
Headphones (daylight)	...	...	...	150 "
Headphones (night-time)	...	...	...	300 "



It will be found that the increase in strength obtainable by adding the crystal set is greater when receiving weak signals. With very loud signals the crystal set does not increase the strength, but improves the musical quality.

If the set is used on a small indoor aerial, or is too far from the station for loud speaker reception, an Edison Bell Note Magnifier may be added to increase the strength, as shown in Fig. 4.



With this combination, the range under average conditions exceeds the following (interference permitting):—

Loud Speaker	...	...	...	...	50 Miles.
Headphones (daylight)	...	...	...	...	200 "
Headphones (night-time)	...	...	...	...	400 "

The Double Purpose Unit and Crystal Set, or Double Purpose Unit Crystal Set and Note Magnifier, can be supplied combined in one Cabinet (desk pattern) if desired. (Write for particulars.)



THE ABOVE IS AN ILLUSTRATION OF THE
Edison Bell Two Valve and Crystal Set. Cat. No. R/305.

Showing the E.B. Crystal Set, D.P.U., and note Magnifier embodied in one Cabinet.